



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,701	04/10/2001	Rajarshi Das	YOR20010151US1	1772

35195 7590 03/03/2005

ERENCE & ASSOCIATES
400 BROAD STREET
PITTSBURGH, PA 15143

EXAMINER

KYLE, CHARLES R

ART UNIT	PAPER NUMBER
----------	--------------

3624

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,701

Applicant(s)

DAS ET AL.

Examiner

Charles R Kyle

Art Unit

3624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-9, 12-29 and 31-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 12-29, 31-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. They recite the phrase "...and a sufficient change in parameters relating to a user." One of ordinary skill in the art of auctions would not know what constitutes a "sufficient" change to cause a trigger of execution.

Claims 27-29 and 31-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. They recite that the apparatus comprises "arrangements" for performing various functions. Broadly construed, a series of method steps can constitute and "arrangement"; the nature of the claimed inventions as apparatus is unclear.

See responses below to Applicant's arguments regarding these rejections.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 27-29 and 31-45 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited

Art Unit: 3624

mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. In *re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*.

Art Unit: 3624

However, State Street never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in State Street (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001), non-precedential but cited for its reasoning.

In the present application, Claims 27-29 and 31-45 have no connection to the technological arts. Applicant admits in Remarks of the December 27, 2004 response that the claimed invention is software and cites the Specification. Recitation of an "apparatus" is only in the preamble to the Claims and does not add life and breath to the Claims; it is given little patentable weight and the Claims are understood to recite only arrangements as software, lacking technological basis. Therefore, the claims are directed towards non-statutory subject matter. To overcome this rejection the Examiner recommends that Applicant amend the claims to better clarify which of the steps are being performed within the technological arts, such as incorporating a computer or computer network into the various steps; for example: "a computer for obtaining information relating to an auction..." The other claims could be similarly amended to include a computer or a feature clearly reciting technological basis.

Claim Rejections - 35 USC § 103

31-32, 34-40,

Claims 1-4, 6-7, 9, 12-17, 21-23, 25-29, ~~31-40~~, 43-45, 47 and 49 are rejected under 35

U.S.C. 103(a) as being unpatentable over US 6,285,989 *Shoham* in view of US 2002/0038282 *Montgomery*.

Art Unit: 3624

With respect to Claim 1, *Shoham* discloses the invention substantially as claimed including in a method of facilitating automatic participation in an electronic auction (Summary of the Invention), the steps of:

obtaining information relating to an ongoing (1, liens 50-53, Continuous Auction”) auction including information about the type of auction (Col. 5, line 65 to Col. 6, line 51) and auction rules relating to the auction (Col. 8, lines 33-38; Col. 12, lines 27-37);

choosing an order computation method from among a number of potential order computation methods (Col. 10, lines 46-54, See below);

obtaining information relating to a user, including user specified parameters which may be used in a order computation method (Col. 10, lines 46-54);

computing an order (Col. 8, lines 50-58; Col. 10, lines 46-54); and

placing the computed order (Col. 10, lines 25-67).

Shoham does not specifically disclose that the order computation is done taking into account parameters relating to a user and the information about the ongoing auction. Note that *Shoham* discloses proxy bidding in which a trader must specify a maximum bid for automated bidding. *Montgomery* specifically discloses these limitations in the context of computing a proxy bid, a computed order, at para. 72. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify *Shoham* with the detailed proxy computation based on user and auction parameters of *Montgomery* because this would provide the detailed algorithm to calculate a proxy type bid/order. See also *Montgomery* at paras. 59 and 68 and *Shoham* at Fig 1.

Art Unit: 3624

Further, Official Notice is taken that it was old and well known to obtain parameters related to a user prior to an auction. For example, it would be necessary to register persons seeking to participate in an auction and to obtain information related to their qualification to participate in the auction. At the very least, it would be necessary to obtain parameters for a user (seller) who wishes to sell an item at auction so as to know who the seller was and what was to be auctioned. It would have been obvious to one of ordinary skill in the art at the time the invention was made to obtain user information as in *Shoham* because this would provide minimal information on a user to facilitate the auction.

Applicant has added the limitation in the preamble "by a bidder on behalf of a user". This is given little patentable weight, as the bidder concept does not occur in the body of the Claim. Nonetheless, *Montgomery* discloses this limitation as the automated proxy bidder which bids on behalf of a user/buyer at Fig. 1 and related text at paras. 57-61, at least.

Applicant has added the limitation of choosing an order computation method "from among a number of potential order computation methods"; *Shoham* discloses this limitation for at least the reason that it discloses a number, one, of computation methods for choosing. Applicant's amended language does not recite choice from a *plurality* of order computation methods and therefore, *Shoham* reads on the limitation of choosing an order computation method.

With respect to Claim 2, *Shoham* discloses placement of revised orders at Col. 2, lines 11-34.

As to Claims 3 and 4, *Shoham* does not specifically disclose periodic performance of the recited steps. Official Notice is taken that it is old and well known to allow traders to provide

Art Unit: 3624

market activity message, such as those to increase a traders maximum bid in a further attempt to win an auction. For instance, allowing a bidder to increase such a maximum bid would provide him/her with flexibility in bidding in the event that bidding rose above the trader's previous maximum. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify *Shoham* to allow market activity messages such as one to raise a maximum bid because this would provide for trader flexibility.

Concerning Claim 6, *Shoham* discloses appropriate order computation for auction type and rules at Col. 13, lines 3-13.

Concerning Claim 7, *Shoham* discloses provision of auction rule and type information from an auctioneer via a message at Col. 14, lines 17-24, Col. 14, lines 36-61 and Fig. 7.

With respect to Claim 9, *Shoham* discloses an order queue at Col 12, line 66 to Col. 13, line 1.

As to Claim 12, *Shoham* does not specifically disclose a user's limit price. *Montgomery* discloses this limitation at paras. 68-69 and Fig. 11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify *Shoham* with the user limit price feature of *Montgomery* because this would provide control of maximum bid price to the user, assuring that the electronic auction did not proxy bid too much on behalf of the user. See also *Shoham* at Col. 7, lines 55-56.

With respect to Claim 13, the limitation is addressed in the rejection of Claim 1; the recitation in Claim 13 is redundant.

As to Claim 14, *Shoham* discloses obtaining market activity information from an auctioneer at Col. 14, line 61 to Col. 15, line 8.

Concerning Claim 15, see the discussion of Claim 4.

Concerning Claim 16, *Shoham* discloses deciding on the viability of an order at Col. 7, lines 57-59.

As to Claim 17, *Shoham* does not specifically disclose ascertaining legality of an order. *Montgomery* discloses this limitation at Fig. 11, ele. 1106 and paras. 82-83.

With respect to Claims 21 and 22, *Shoham* discloses aggregation of ongoing auction information into a market history at Col. 15, lines 17-20.

Concerning Claim 23, *Shoham* does not disclose augmenting auction history with information from previous auctions. Official Notice is taken that expansion of historical databases for better decision making is old and well known. For example, large sample populations for statistical inference provide greater probability of correct inference. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify *Shoham* by augmenting with previous auction data because this would provide a greater likelihood for traders to understand their market.

With respect to Claim 25 and 26, see the discussion of Claim 1 and Note that *Shoham* functions in the “automatic” environment of the Internet.

With respect to Claim 27, it is an apparatus form of Claim 1 and is rejected in alike manner.

As to Claim 28, see the discussion of Claims 27 and 3.

As to Claim 29, see the discussion of Claims 28 and 4

As to Claims 31-33, see the discussion of Claim 27, and 6-8 respectively.

As to Claim 34, see the discussion of Claims 27 and 9. For purposes of examination it is assumed that Applicants' intend that Claim 34 depend from claim 27 rather than cancelled Claim 30.

As to Claim 35-36, see the discussion of Claims 27 and 1.

As to Claim 37, see the discussion of Claims 35 and 12.

As to Claim 38, see the discussion of Claims 27 and 14.

As to Claim 39-40, see the discussion of Claims 27 and 16-17.

As to Claim 43-45, see the discussion of Claims 27 and 21-23.

With respect to Claim 47, see the discussions set forth above and note that *Shoham* discloses a program storage device for his method at Fig. 2.

Concerning Claim 49, see the discussion of Claims 1 and 47 above.

Claims 18-20, 24, 41-42, 46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,285,989 *Shoham* in view of US 2002/0038282 *Montgomery* and further in view of *Price Formation in Double Auctions* by Gjerstaed and Dickhaut, already of record, hereinafter, *Price Formation*.

As to Claim 18, *Shoham* discloses the invention substantially as claimed. See the discussion of Claim 1. *Shoham* does not specifically disclose the computation of a belief function in auction order development. *Price Formation* discloses this feature at Sections 2.4.2 to 2.4.6. The essence of the disclosure of *Price Formation* is that it is possible to quantify traders' assessment of order success in an effort to maximize trader surplus as set forth at

Art Unit: 3624

Example 3 of Section 2.4.6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify *Shoham* with the use of the belief functions of *Price Formation* because this would provide a formalized method to help maximize trader surpluses on particular trades.

Concerning Claim 19, *Price Formation* discloses likelihood of successful trade within a range of order values at Section 2.4.6, Example 3, portion where $p(a)=\dots$

With respect to Claim 20, see the discussion of Claims 18 and 16. The use of a belief function would be obvious to choose a computation method because this would have provided probabilities that a given computation method would result in a successful order.

Concerning Claim 24, see the discussion of Claims 1 and 18.

Concerning Claims 41 and 42, see the discussion of Claims 27 and 18 and 20 respectively.

Concerning Claim 46, see the discussion of Claims 1 and 18.

Concerning Claim 48, see the discussions of Claims 1 and 18 and 47..

Claims 8 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,285,989 *Shoham* in view of US 2002/0038282 *Montgomery* and further in view of US 6,161,099 *Harrington et al.*

As to Claim 8, *Shoham* discloses the invention substantially as claimed. See the discussion of Claim 1. *Shoham* does not specifically disclose a prompt to obtain information from an auctioneer. *Harrington* discloses this limitation at Fig. 8 and related text. It would have

Art Unit: 3624

been obvious to one of ordinary skill in the art at the time the invention was made to modify *Shoham* with the prompt of *Harrington* because this would indicate to a user/trader requirements and opportunity to obtain auction information.


As to Claim 33, see the discussion of Claims 32 and 8.

Response to Arguments

Applicant's arguments filed December 27, 2004 have been fully considered but they are not persuasive.

At pages 14-15 of the Remarks, Applicant argues against the rejections under 35 USC 112 2nd paragraph. Applicant argues regarding Claims 4 and 29 that the phrase "and a sufficient change in parameters related to a user" is clear. The Examiner disagrees. Applicant cites US Patent 6,822,982 as reciting, "that provides a sufficient change"; the phrasing is not present in the *Claims* of that document. Applicant discusses the concept of sufficiency with respect to his Specification, but the Claim language must stand on it own for clarity. A review of the Specification provides no insight into the how user parameters might be understood to change "sufficiently" and Applicant's comments provide no detail.

Applicant argues that Claims 27-29 and 31-45 are clear as reciting "arrangements," and then cites specific implementations from the Specification. If the "arrangement" is to be as hardware or software it should be so stated in the Claim language. Applicant is also advised to amend so that the claimed invention is clearly within a statutory class of invention. Applicant cites 93,634 patent with the phrase "an arrangement for," but does not recognize that search engines disregard stop words such as "an" and "for." Thus, the hit count is for the word



Art Unit: 3624

“arrangement” only. Applicant also fails to address the Examiner’s comments on an “arrangement” as being interpreted as a series of method steps within apparatus Claims, thus confusing the nature of the invention.

Applicant further argues that the arrangements “may be implemented in hardware, software, or a combination of both.” This further confuses the issue, as it is unclear what the statutory nature of the invention comprising “arrangements” is intended to be.

Conclusion

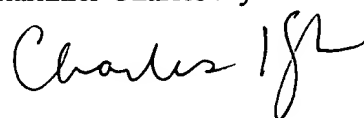
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kyle whose telephone number is (703) 305-4458. The examiner can normally be reached on M-F 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Vincent A Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

crk

Examiner Charles Kyle

A handwritten signature in black ink, appearing to read "Charles Kyle", with a stylized flourish at the end.